REMARKS

I.   Status of Claims

Claims 16-20 are all the claims pending in the application. Claim 20 is independent.
Claim 20 is amended.

II.   Claim Rejections- 35 U.S.C. § 112

The Examiner rejected claim 20 under 35 U.S.C. § 112, first paragraph, as allegedly
failing to comply with the written description requirement. The Examiner specifically stated that
the limitation "with said circuit including a computer system, with a processor and a memory" is
considered to be new matter.

The Applicant refers the Examiner to the Specification at p. 4, lines 5-7, which
specifically describes that the "computer system 16 includes memory storage devices for storing
the signal received from the signal processing system 14 and one or more processors for
processing the signals."

The Applicant submits that the Specification clearly supports the language of claim 20,
and respectfully requests that the rejection under 35 U.S.C. § 112 be withdrawn.

III.   Claim Rejections- 35 U.S.C. § 102

Claims 16-17 and 20 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated
by non-patent literature Fuchs M. et al. *"Improving source reconstructions by combining
bioelectric and biomagnetic data."* (hereinafter "Fuchs").

The Applicant amends claim to more clearly describe the features of the claimed

embodiment, specifically "feeding source reconstruction data through a feedback loop to the

measurement module to modify the analysis of a new electromagnetic physiological signal,

wherein the new electromagnetic physiological signal is being acquired while the source

reconstruction is being performed." Support for the amendment is found throughout the

Specification, but specifically at p. 5, lines 10-12.

The Applicant submits that Fuchs fails to disclose feeding the source reconstruction data

through a feedback loop to the measurement module to modify the analysis of a new

electromagnetic physiological signal wherein the new electromagnetic physiological signal is

being acquired *while the source reconstruction is being performed*. Fuchs does not disclose

feeding source reconstruction data through a feedback loop, and similarly does not disclose

where a new electromagnetic physiological signal is being acquired *while the source

reconstruction is being performed*.

Fuchs describes performing a source reconstruction by combining bioelectric and

biomagnetic data (*Fuchs*, Abstract). These different types of data are combined in order to

improve a single source reconstruction calculation, not improve upon a *future* result from a *new*

electromagnetic physiological signal. There is no modification of an analysis of a *new*

electromagnetic physiological signal in Fuchs, and there is certainly no acquisition of a new

electromagnetic physiological signal *while the source reconstruction is being performed*.

In the Introduction section of Fuchs, various problems are discussed that must be solved

in order to combine the two methods of source reconstruction, including transforming the

different measures to a common basis (p. 93, right column, first bullet point), using a common

volume conductor model and using dipole regularization techniques (p. 94, left column, first and

second bullet points). At no point does Fuchs describe a technique of "feeding source

reconstruction data through a feedback loop to the measurement module to modify the analysis

of a new electromagnetic physiological signal," as recited in claim 20. The Examiner cites to the

Introduction and Methods sections and specifically the "SEP/SEF measurement verification" as

teaching the claimed feature, but the discussion in the Introduction of evoked somatosensory

measurements only describes simultaneous recording of 31 electrodes EEG on 31 channels

MEG. There is also no relevant description in the Methods section of SEP/SEF measurement

verification which discusses anything similar to a feedback loop or the use of source

reconstruction data to modify the analysis of a new signal. Section 2.11 only describes verifying

simulation results with real measured data, but there is no discussion of using measured data or

source reconstruction data to modify the measurement of a new signal. There is certainly no

discussion of a feedback loop where source reconstruction data from these electrodes is fed back

to the measurement module to *modify the analysis of a new electromagnetic physiological signal*,

as recited in claim 20.

   Furthermore, Fuchs also fails to describe "wherein the new electromagnetic physiological

signal is being acquired *while the source reconstruction is being performed*." Fuchs provides no

discussion or disclosure of the ability to acquire a new electromagnetic physiological signal

while the source reconstruction is being performed. The Applicant submits that the system

described in Fuchs is not even capable of acquiring a new electromagnetic physiological signal while another source reconstruction is being performed.

The Applicant further submits that Fuchs fails to disclose "the computer system being configured to support multiple parallel threads of execution with one thread being a measurement module and a second thread being a source reconstruction module," as recited in claim 20. The Examiner first cites to SEP/SEF and the "Evoked somatosensory field examinations section," which corresponds to Section 2.11 of Fuchs. As discussed immediately above, Section 2.11 is focused on verifying simulation results with real measured data using a standard SEP/SEF experiment. There is no discussion in Section 2.11 of the use of a computer system configured to support multiple parallel threads of execution, nor is there any discussion of the need for a system to conduct multiple parallel threads of execution. The Examiner also cites generally to the "Simulations" section of Fuchs, but again, there is no discussion in Section 3.1, *Simulations*, about a computer system or one that is configured to support multiple parallel threads of execution. There is certainly no discussion in Fuchs of a computer system supporting multiple parallel threads of execution "with one thread being a measurement module and a second thread being a source reconstruction module," as recited in claim 20.

Therefore, the Applicant respectfully requests that the rejection of claim 20 be withdrawn.

IV.   Claim Rejections- 35 U.S.C. § 103

Claims 18-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fuchs M. et al. *"Improving source reconstructions by combining bioelectric and biomagnetic data"*.

The Applicant refers the Examiner to the arguments presented above in Section III, with regard to claim 20, and submits that claims 18 and 19 are allowable at least based on their dependency to claim 20. The Applicant respectfully requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

IV.　Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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